

**REMARKS**

Initially, Applicants wish to thank the Examiner for the very helpful interview conducted with Applicants' representatives on March 12, 2003.

**I. Status of Claims**

Claims 17, 20, 21, and 23-36 are now pending. Claim 18 has been canceled herein without prejudice. Claims 17 and 35 have been amended herein to recite "at least one anionic surfactant" in place of "washing base." This amendment is supported by Applicants' original specification at least at: page 5, lines 15-22; page 6, lines 14 - page 8, line 11; the Example found on pages 31-33; and original Claim 18. Accordingly, no new matter has been added. Furthermore, during the recent interview, the Examiner suggested that Applicants amend the claims to recite specific classes of surfactant in place of the term "washing base."

**II. Rejection Under 35 U.S.C. § 103(a) over De Marco in view of Reich**

The Examiner has maintained the rejection of Claims 17, 18, 20, 21, and 23-36 under 35 U.S.C. § 103(a) over De Marco (U.S. Pat. No. 4,529,586) in view of Reich (WO 94/06403). Specifically, the Examiner states that De Marco teaches a hair-conditioning composition comprising an amino functional silicone polymer, a cationic surfactant and a cationic polymer. *Office Action*, page 2. The Examiner apparently believes that the cationic surfactant recited in De Marco reads on the "washing base" recited in the current claims. *Id.* at 3. The Examiner admits, however, that De Marco fails to teach the presently claimed cationic polymer. *Id.* She thus relies on Reich's teaching of hair-conditioning shampoos containing a cationic polymer, anionic surfactant, hair conditioning amino functional silicone polymer and a dispersing agent. *Id.* The Examiner concludes that it would have been obvious to one skilled in the art to

combine the cationic polymers of Reich with the composition of De Marco to arrive at the instantly claimed compositions. *Id.* at 4. Applicants respectfully traverse with respect to all claims. The instant claims are not obvious under 35 U.S.C. § 103(a) over De Marco in view of Reich for the reasons of record and the additional reasons found below.

**A. The selection of an amino silicone polymer in the claimed weight range of 11,000 to 25,000 is not taught or suggested by De Marco or Reich.**

As an initial matter, the instant claims recite that the amino silicone polymer contained in the present compositions has a weight-average molecular weight of 11,000 to 25,000. De Marco discloses amino silicone polymers with a much broader molecular weight of 5,000 to 100,000. As discussed of record and at the interview, the Example contained in the present specification at pages 31-33 demonstrates an unexpected improvement in the property of hair samples treated with a composition comprising an amino silicone polymer with a weight inside the claimed range compared to a composition containing an amino silicone polymer with a weight outside that range. Therefore, based on the selection of a narrow molecular weight range for the amino silicone polymer, a lack of teaching in De Marco that the selection of a more narrow weight range would be desirable, and the unexpected results demonstrated in Applicants' specification with such a weight range, the present compositions are not obvious under 35 U.S.C. § 103(a).

In response to this argument, as set forth in the last response, the Examiner contends that the selection of the claimed molecular weight range would have been

"within the gambit of an [sic] ordinary skill in the art." Office Action, page 5, lines 2-4.

Applicants disagree.

First, the predecessor to the Federal Circuit has made it clear that in order for the "optimization" of a variable disclosed in the art to be "obvious" under the framework of 35 U.S.C. § 103(a), the art must recognize that changing the particular variable is "result effective." See *In re Antonie*, 559 F.2d 618 (CCPA 1977) (where the Court reversed a decision of the Board holding applicants' claims obvious, even though the claimed variable was inherent in the prior art, because optimization of the claimed variable was not recognized in the art as beneficial). Where such "result-effective" teachings are absent in the art, the Court views such rejections as a version of the impermissible "obvious to try" rationale under 35 U.S.C. § 103(a). *Id.* at 620.

The reasoning of the Court in *Antonie* applies to the present claims as well. De Marco discloses amino silicone polymers with a molecular weight range of 5,000 to 100,000. In contrast, the instant claims recite an amino silicone polymer with a weight range of 11,000 to 25,000. De Marco does not disclose, teach, or suggest that a particular weight range within the broad one disclosed is preferable or that hair samples treated with such a polymer would show a marked improvement in comparison to samples treated with polymers outside that range. Furthermore, the disclosure of Reich cannot cure the deficiencies of De Marco. The amino silicone polymer disclosed in Reich is different than the one contained in the instant claims in that it contains hydrophobic methyl groups in place of the hydrophilic hydroxy groups of the instantly claimed polymer. Therefore, based on this lack of teaching or suggestion in either the De Marco or Reich references, one skilled in the art would not have been motivated to

select the particular claimed amino silicone polymer with the specified weight range of 11,000 to 25,000. Therefore, the molecular weight of the amino silicone polymer is not recognized in the art as "result-effective." Accordingly, such a weight range is not obvious and would not have been arrived at through "optimization" without undue experimentation.

Second, a claim containing a narrow range within a broader disclosed range is not necessarily obvious *per se*. For example, in *In re Waymouth*, the Board held obvious claims that recited a particular ratio of mercury to halogen atoms in light of prior art that inherently contained a ratio of mercury to halogen atoms encompassing the claimed range. *In re Waymouth*, 499 F.2d 1273 (CCPA 1974). In particular, the Board agreed with the Examiner that the claims were obvious because it deemed that such a ratio could be arrived at by one skilled in the art through routine experimentation. On appeal, the Court reversed the Board's decision, finding that the claims were not obvious under 35 U.S.C. § 103(a). In particular, the Court found that the claimed ratio of mercury to halogen atoms was not taught in the prior art and further stated "[i]n determining whether or not such experimentation is within the teachings of the art, we must be ever alert not to read obviousness into an invention on the basis of the (appellants') own statements; that is we must view the prior art without reading into that art (appellants') teachings." *Id.* at 1276 (internal quotes omitted). Furthermore, the Court found that Waymouth had demonstrated that unexpectedly good results were obtained in the claimed range in comparison to embodiments outside the claimed range.

The reasoning of the Court in *Waymouth* applies to the instant claims as well. The instant claims recite an amino silicone polymer with a comparatively narrow weight range compared to the disclosure of De Marco. There is no teaching in De Marco that the selection of a more narrow weight range would be beneficial. Further as discussed at the interview, the Applicant has demonstrated unexpectedly good results in the properties of hair samples treated with a composition comprising an amino silicone polymer in the claimed range compared to a hair sample treated with a composition comprising an amino silicone polymer outside of that range.

For these reasons alone, the instant claims are not obvious under 35 U.S.C. § 103(a) in view of De Marco over Reich. Accordingly, Applicants respectfully request that the rejection be withdrawn with respect to all claims.

**B. The Examiner has confused the teachings of De Marco**

Throughout prosecution, the Examiner has mischaracterized the teachings of the De Marco reference. In addition, the Examiner's statements regarding the teachings of De Marco have been inconsistent. Applicants respectfully request that the Examiner's position regarding the teachings of De Marco with respect to the current rejection be clarified for the record.

For example, in the last Office Action, the Examiner stated that "instant claim 18 recites surfactants such as anionic, cationic, amphoteric, non-ionic and zwitterionic surfactant as suitable washing bases. Accordingly, the cationic surfactants taught by '586 (De Marco) read on the instant washing base." Office Action, page 3, lines 7-10 (emphasis added). But in the same paragraph, the Examiner stated that De Marco "teaches that the cationic surfactants in an amount [sic] effective for increasing the

combability of the hair and durability of the conditioning effect.” Office Action, page 3, lines 10-13 (emphasis added). Several pages later, the Examiner stated that “De Marco teaches that the optimum conditioning effect imparted by the surfactant is a function of concentration. While applicants recite washing base, they do not show any criticality of the amounts of the surfactant (washing base) required for the instant composition. In particular, from the comparative example on pages 31-33, the cationic surfactant is only 0.2% and still the composition imparts good hair conditioning properties, which are also taught by De Marco.” Office Action, page 5, lines 4-9 (emphasis added). Applicants respectfully admit that they are confused by the Examiner’s inconsistent statements as to the teachings of De Marco.

On one hand, the Examiner states that the cationic surfactant in De Marco reads on the “washing base” of the instant claims. But later, the Examiner states that the same cationic surfactant imparts a hair conditioning effect and that the conditioning effect of the cationic surfactant is a function of its concentration. Is the Examiner relying on De Marco to teach the cationic surfactant as a washing base or as a hair conditioning agent?

Applicants wish to respectfully point out and make clear that the instant claims require both a washing base and conditioning system. While it is true that the term “washing base” is defined in the instant specification to read on surfactants, the purpose of the surfactant, in the amounts required, in the instant compositions is as a washing base and not as a conditioning agent. De Marco’s cationic surfactant cannot be relied upon by the Examiner to cover both claim elements.

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**C. De Marco teaches away from the combination with Reich**

The Federal Circuit has made it clear that a prior art reference must be considered for all that it teaches, including those portions that teach away from the claimed invention. See M.P.E.P. § 2141.02. Furthermore, a prima facie case of obviousness under 35 U.S.C. § 103(a) is not established simply because it is possible to combine two references. Rather, there must have been sufficient motivation for one skilled in the art to combine the references at the time the invention was made. See M.P.E.P. § 2143.01. In concluding that the instant claims are obvious, the Examiner has committed legal error by failing to consider that De Marco clearly teaches away from the combination with Reich and that neither reference contains a sufficient suggestion or teaching that such a combination would have been beneficial.

As an initial matter, Applicants wish to make clear for the record what the two references teach. De Marco teaches only the use of cationic surfactants in very small amounts as an emulsifier in the disclosed hair conditioning compositions. It does not teach the use of anionic, amphoteric, non-ionic, and zwitterionic surfactants, or mixtures thereof, for any purpose. De Marco provides no information that the disclosed compositions would be useful for their intended hair conditioning purpose if they contained these other types of surfactants, especially in the amounts required by the instant claims. Furthermore, Reich teaches only the use of anionic surfactants in combination with an amino silicone polymer that is different than that used by De Marco.

Reich does not teach or disclose that cationic, amphoteric, non-ionic, or zwitterionic surfactants would even function properly in its disclosed compositions.

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It is Applicants' position, and the Examiner admitted during the recent interview, that De Marco teaches away from the use of cationic surfactants in the amount 4% to 50% by weight as required by the instant claims. For example, De Marco prepared compositions in which he used cationic surfactants in a range of 0.11% to 0.4% by weight and observed an improvement in reducing static retention in hair samples treated with them. But, he later stated that "increasing the concentration of the cationic surfactant above a point begins to decrease the overall conditioning efficiency of the composition." Column 2, lines 28-43. In direct contrast, Reich teaches that the surfactant in his compositions is present in an amount from 5% to 40% by weight; at least 10-fold higher than the highest concentration disclosed by De Marco to be useful. Therefore, one skilled in the art reading the combination of De Marco and Reich would not have been motivated to combine them to arrive at a composition comprising, among other things, from 4% to 50% by weight of a surfactant, as required by the instant claims.

De Marco also strongly teaches away from a combination with Reich with respect to a composition comprising from 4% to 50% by weight of an anionic surfactant as required by the instant claims. De Marco makes it clear throughout the disclosure that the disclosed compositions are designed to be used either before or after, but not simultaneously with, the use of an anionic surfactant-containing shampoo. See, for example, Column 1, lines 48-50. In addition, De Marco teaches that the proposed mechanism by which the disclosed compositions exert their conditioning effect is by complexation of the cationic polymer with negatively charged sites on the hair. The negative sites on the hair, according to De Marco, are a result of residue left from the



use of anionic surfactant-containing shampoos. See, for example, Column 5, line 54-column 6, line 4. The cationic polymer is present in De Marco's compositions in a range of 0.005% to about 1% by weight. Column 6, lines 26-31. In other words, according to De Marco, which must be considered for all that it teaches, about 0.005% to about 1% by weight of the composition undergoes a simple ionic interaction to provide a hair conditioning effect: positively charged polymer with negatively charged sites on the hair resulting from the use of anionic surfactant containing shampoos to provide a neutral complex.

Therefore, one skilled in the art reading De Marco would not be motivated to combine 4% to 50% by weight of an anionic surfactant, as required by the instant claims, and about 0.005% to about 1% of a cationic polymer in the same composition. Why? The answer according to De Marco is simple chemistry. The 0.005% to 1% by weight of free cationic polymer, necessary to promote the desired hair conditioning effect, would immediately form a complex with the anionic surfactant which would be present in at least a 4-fold greater amount. According to the teachings of De Marco, the result of such complexation would be no conditioning effect because there would be no free cationic polymer remaining. Accordingly, one skilled in the art would not have been motivated to combine the disclosures of De Marco and Reich to arrive at the instantly claimed compositions.

As stated earlier, the Examiner must consider the references as a whole, even those portions that do not support the instant rejection. The Examiner cannot ignore the mechanistic teachings of De Marco. And it is impermissible for the Examiner to use Applicants' disclosure and hindsight to make up for the deficiencies of the references.

Instead, the Examiner must consider what the combination of De Marco and Reich would have taught one skilled in the art at the time the instant invention was made. It is clear that the combination of these two references would not have motivated one skilled in the art to add the required amount of either a cationic or anionic surfactant to the compositions of De Marco as the Examiner claims. Instead, De Marco clearly teaches away from such combinations. As such, the instantly claimed compositions would not have been obvious at the time the invention was made.

Last, and as stated earlier, neither De Marco nor Reich even remotely discusses the use of amphoteric, non-ionic, or zwitterionic surfactants. Therefore, the Examiner cannot use the combination of De Marco and Reich to render compositions containing these types of surfactants obvious under 35 U.S.C. § 103(a).

Accordingly, because De Marco teaches away from the addition of either anionic or cationic surfactants in the amounts required by the instant claims and because neither reference teaches amphoteric, non-ionic, or zwitterionic surfactants, the combination of these two references cannot render the instantly claimed compositions obvious under 35 U.S.C. § 103(a). Applicants respectfully request that the rejection be withdrawn with respect to all claims.

### **III. Current Amendments**

Even though Applicants disagree with the basis of the Examiner's rejection, the claims have been amended herein to advance prosecution. As amended, the claims recite "at least one anionic surfactant" instead of "washing base." Accordingly, the issue of the cationic surfactant in De Marco is now moot. While Applicants disagree that the cationic surfactant contained in the compositions of De Marco can be present in the

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amounts required by the instant claims or was intended by De Marco to function as a washing base, Applicants' current amendments take the instant compositions outside the scope of the De Marco disclosure. For this reason alone, Applicants respectfully request that the current rejection under 35 U.S.C. § 103(a) be withdrawn with respect to all claims.

For all of these reasons and those already of record, the instant claims are not obvious under 35 U.S.C. § 103(a) over De Marco in view of Reich. Accordingly, Applicants respectfully request that the rejection be withdrawn.

**CONCLUSION**

In view of the foregoing remarks, Applicants respectfully request reconsideration of the pending claims and the timely allowance thereof.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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GARRETT & DUNNER, L.L.P.

Dated: March 20, 2003

By: Thalia V. Warnement  
Thalia V. Warnement  
Reg. No. 39,064

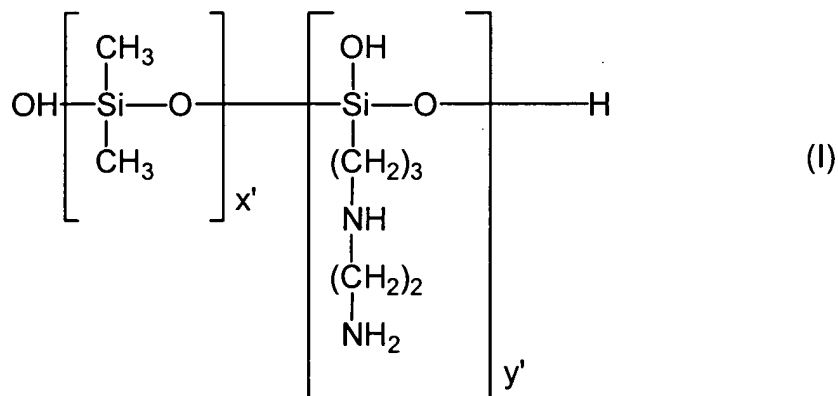
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**APPENDIX A**

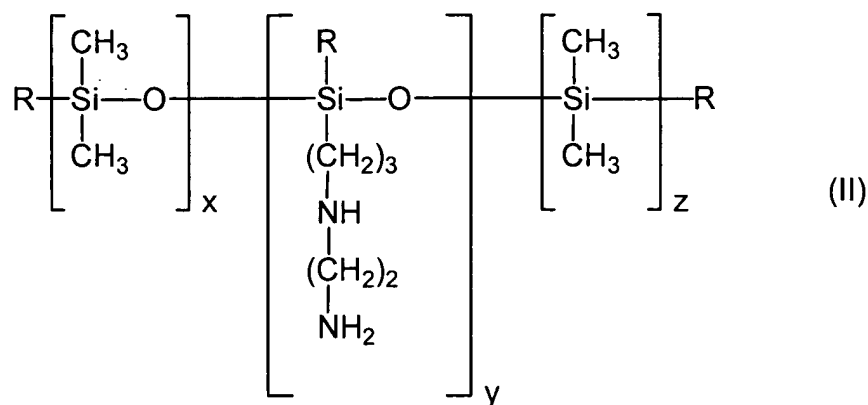
17. (Four Times Amended) A detergent and conditioning composition comprising, in a cosmetically acceptable medium, at least one anionic surfactant [a washing base] and a conditioning system, wherein the at least one anionic surfactant [washing base] is present in an amount ranging from 4% to 50% by weight with respect to the total weight of the composition, and further wherein the conditioning system comprises at least one cationic polymer and at least one amine-comprising silicone with a weight-average molecular mass ranging from 11,000 to 25,000, wherein the amine-comprising silicone is chosen from:

(a) polysiloxanes corresponding to the formula (I):



in which  $x'$  and  $y'$  are integers that depend on the weight-average molecular mass, wherein the molecular mass ranges from 11,000 to 25,000, and

(b) polysiloxanes corresponding to the formula (II):

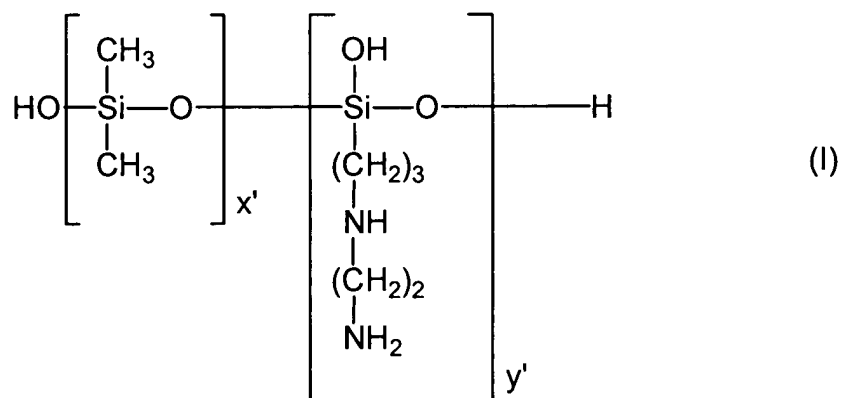


in which R denotes OH, x, y, and z are integers that depend on the weight-average molecular mass, and wherein the weight-average molecular mass ranges from 11,000 to 25,000.

35. (Thrice Amended) A process for washing and conditioning keratinous substances comprising:

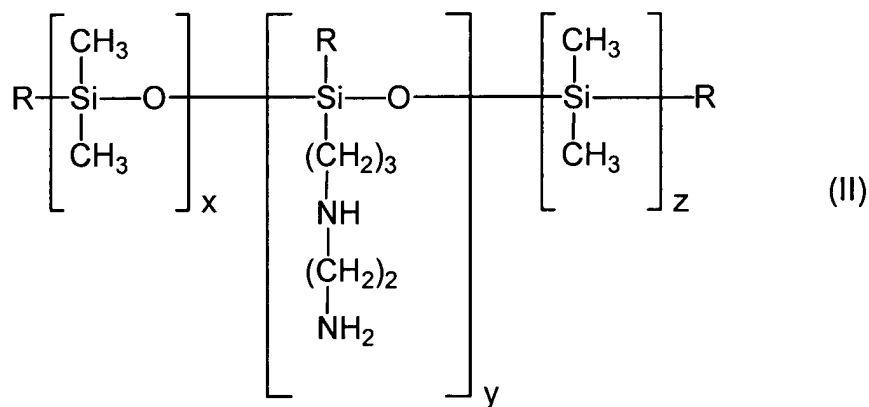
- a) wetting the keratinous substances;
- b) applying to the wetted keratinous substances an effective amount of a composition comprising, in a cosmetically acceptable medium, at least one anionic surfactant [a washing base] and a conditioning system, wherein the at least one anionic surfactant [washing base] is present in an amount ranging from 4% to 50% by weight with respect to the total weight of the composition, and further wherein the conditioning system comprises at least one cationic polymer and at least one amine-comprising silicone with a weight-average molecular mass ranging from 11,000 to 25,000, wherein the amine-comprising silicone is chosen from:

(i) polysiloxanes corresponding to the formula (I):



in which  $x'$  and  $y'$  are integers that depend on the weight-average molecular mass, wherein the molecular mass ranges from 11,000 to 25,000, and

(ii) polysiloxanes corresponding to the formula (II):



in which R denotes OH,  $x$ ,  $y$ , and  $z$  are integers that depend on the weight-average molecular mass, and wherein the weight-average molecular mass ranges from 11,000 to 25,000; and

c) rinsing the keratinous substances with water.